Model PC420A-B3223
# Frequency-banded acceleration
loop powered sensors (LPS™)

Features
- True RMS or true peak output
- Corrosion resistant
- Hermetic seal
- ESD protection
- Overload protection
- Reverse wiring protection

Benefits
- Much-narrower bandwidth with higher-order filtering limits fundamental frequencies
- Designed to examine frequncies related to pump cavitation
- Provides continuous trending of overall machine vibration
- Can help guide maintenance
- Helps notify of impending equipment failure

The 4-20 mA output of the frequency-banded accelerometer is proportional to acceleration vibration. An output of 4 mA indicates a level of 0g or no vibration present. A full-scale reading of 20 mA indicates that the maximum range of vibration is present. This sensor filters-out low frequency components, such as motor running speed, in favor of higher frequency information related to pump cavitation. Higher order filtering sharpens sensor bandwith for tight performance.
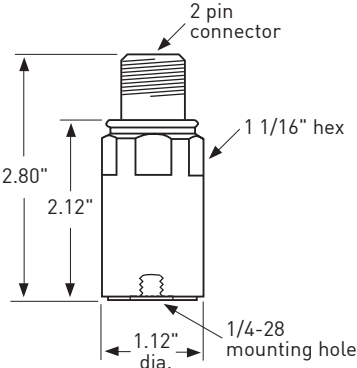
Output, 4-20 mA
Full scale, 20 mA (±5%)	see table 1
Frequency response:	
±10%	400 Hz - 1.4 kHz
±3 dB	300 Hz - 2 kHz
Repeatability	±2%
Transverse sensitivity, max.	5%

Electrical
Power requirements (two wire loop power):
Voltage at PC420 Series sensor terminals................................	10 VDC min, 30 VDC max
Loop resistance[1] at 24 VDC, maximum	700Ω
Turn on time, 4-20 mA loop	‹ 30 seconds
Grounding..	case isolated, internally shielded

Environmental
Temperature range	–40 to 85°C
Vibration limit	250 g peak
Shock limit	2,500 g peak
Sealing	hermetic

Physical
Sensing element design	PZT ceramic / shear
Weight	162 grams
Case material..	316L stainless steel
Mounting	1/4 - 28 tapped hole
Output connector	2 pin, MIL-C-5015 style
Mating connector	R6 type
Recommended cabling	J9T2A

Connector pin	Function
Shell	ground
A	loop positive (+)
B	loop negative (–)

Notes: [1] Maximum loop resistance (R_L) can be calculated using formula on back.
Accessories supplied: SF6 mounting stud (International customers specify mounting requirements); calibration data (level 2).

See back for table 1 and powering diagram.

2.80"
2.12"
2 pin connector
1 1/16" hex
1/4-28 mounting hole
1.12" dia.

CE

Table 1: PC420Axx-yy-B3223

xx (4-20 mA output type)	yy (4-20mA full scale)
R = RMS output, acceleration	05 = 5 g
P= equivalent peak ouput, acceleration	10 = 10 g
TP= true peak output, acceleration	20 = 20 g

Notes:
[1] Maximum loop resistance calculation:

$$R_L \text{ (max resistance)} = \frac{V_{DC\ power} - 10\ V}{20\ mA}$$

DC supply voltage	R_L (max resistance)[2]	R_L (minimum wattage capability)[3]
12 VDC	100Ω	1/8 Watt
20 VDC	500Ω	1/4 Watt
24 VDC	700Ω	1/2 Watt
26 VDC	800Ω	1/2 Watt
30 VDC	1.0kΩ	1/2 Watt

[2] Lower resistance is allowed, greater than 10Ω recommended.
[3] Minimum R_L wattage determined by: (0.0004 x R_L).

Typical circuit

Red A, 4-20 plus
White B, 4-20 minus
Model PC420A-B3223
R_L
Signal measuring equipment
+ DC power supply
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PLC / DCS